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What is claimed is:

1. A method of producing a pertussis toxoid, which comprises removing endotoxin from a culture supernatant of a Bordetella pertussis phase 1 strain or a concentrate thereof and flocculating pertussis exotoxin in the resultant fluid by permitting formaldehyde to act upon the fluid in the substantial absence of basic amino acid.

2. A method of claim 1, wherein the flocculation is performed by admixing formalin or a dilution thereof with the fluid in the substantial absence of basic amino acid and incubating the mixture.

3. A method of claim 2, wherein the incubation is continued until the pertussis exotoxin is substantially detoxified.

20 4. A method of claim 2, wherein formalin or a dilution thereof is admixed with the fluid, with no addition of basic amino acid, to give a concentration of about 0.1 to 0.6 v/v % in terms of formalin, and the mixture is incubated at about 32 to 42°C for about 3 to 14 days.

B BT 5. A method of claim 1, wherein the removal of endotoxin is accomplished by centrifuging the culture supernatant or concentrate thereof on a sucrose density gradient of about 0 to 60 w/w % at R max. about 62,000 to 122,000 G for about 10 to 24 hours.

30 6. A method of claim 1, which further comprises dispersing the flocculent mass in the resulting suspension by ultra-sonication.

6 7. A method of claim 1, wherein a dialysis treatment is interposed between the respective steps.

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7. A method of claim 1, wherein the culture supernatant is concentrated by salting out with use of ammonium sulfate, and endotoxin is removed from the resulting concentrate.

8. A method of claim 1, wherein Bordetella pertussis phase I strain is Tohama phase I strain.

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